

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A substrate processing apparatus which comprises a light source, a plurality of rigid light transmitting windows which are located on a light path from the light source and transmit light from the light source, a reaction chamber capable of being evacuated, ~~a support member positioned on one surface of the reaction chamber, beams fixed on the support member and~~ positioned between the light transmitting windows and supporting each of the light transmitting windows relative to said reaction chamber so as to provide with airtightness of the reaction chamber, a substrate holder having a region on an upper surface of the substrate holder to hold a substrate to be processed in whole, and in which a substrate to be processed is placed on the region of the substrate holder in the evacuated reaction chamber so as to oppose the light transmitting window with a spacing therebetween, and at least a surface to be processed of the substrate, which opposes the light transmitting window is processed by using a reaction which occurs when the light from the light source is irradiated into the reaction chamber through the light transmitting window, comprising a driving mechanism which linearly moves the region of the substrate holder relative to the light transmitting window in one direction parallel to the surface to be processed, wherein a width of each of the light transmitting windows in the direction in which the region moves relative to the light transmitting window is smaller than a length of the region in the moving direction.

Claim 2 (Currently Amended): A substrate processing apparatus which comprises a light source, a plurality of rigid light transmitting windows which are located on a light path from the light source and transmit light from the light source, a reaction chamber capable of being evacuated, ~~a support member positioned on one surface of the reaction chamber, beams~~

~~fixed on the support member and~~ positioned between the light transmitting windows and supporting each of the light transmitting windows relative to said reaction chamber so as to provide with airtightness of the reaction chamber, a substrate holder having a region on an upper surface of the substrate holder to hold a substrate to be processed in whole, and in which a substrate to be processed is placed on the region of the substrate holder in the evacuated reaction chamber so as to oppose the light transmitting windows with a spacing therebetween, and at least a surface to be processed of the substrate, which opposes the light transmitting windows is processed by using a reaction which occurs when the light from the light source is irradiated into the reaction chamber through the light transmitting windows, comprising a driving mechanism which linearly swings the region of the substrate holder relative to the light transmitting windows in a direction parallel to the surface to be processed, wherein a width of each of the light transmitting windows in the direction in which the substrate moves relative to the light transmitting windows is smaller than a length of the region in the moving direction.

Claim 3 (Previously Presented): An apparatus according to claim 1 or 2, wherein the plurality of rigid light transmitting windows are juxtaposed in a first direction.

Claim 4 (Previously Presented): An apparatus according to claim 1 or 2, wherein the plurality of rigid light transmitting windows are juxtaposed in a first direction and a second direction different from the first direction.

Claim 5 (Previously Presented): An apparatus according to claim 4, wherein the plurality of light transmitting windows are arranged into a checkerboard pattern.

Claims 6-7 (Cancelled).

Claim 8 (Previously Presented): An apparatus according to claim 2, wherein the light transmitting windows are juxtaposed in the swinging direction such that widths of the light transmitting windows in the swinging direction are constant, and intervals between adjacent light transmitting windows in the swinging direction are constant, and a stroke of the swing by the driving mechanism is larger than a repeating interval which is a sum of the width in the swinging direction of the light transmitting window and a width in the swinging direction of a beam formed between adjacent light transmitting windows.

Claim 9 (Previously Presented): An apparatus according to claim 1, wherein the light transmitting windows are juxtaposed in the moving direction such that intervals between adjacent light transmitting windows in the moving direction are not uniform.

Claim 10 (Cancelled).

Claim 11 (Currently Amended): An apparatus according to claim 1, wherein a length of the reaction chamber in the moving direction is more than twice a length of the region of the substrate holder in the moving direction.

Claim 12 (Previously Presented): An apparatus according to claim 1 or 2, wherein the reaction chamber has a gate valve, at least one sub-reaction chamber different from the reaction chamber is placed adjacent to the reaction chamber via the gate valve, and the driving mechanism moves the region in one way from the reaction chamber to the sub-reaction chamber over the gate valve.

Claim 13 (Original): An apparatus according to claim 1 or 2, wherein the light source is a low-pressure mercury lamp.

Claim 14 (Original): An apparatus according to claim 1 or 2, wherein the light source is a rare gas excimer lamp.

Claim 15 (Original): An apparatus according to claim 14, wherein the light source is a xenon excimer lamp.

Claim 16 (Previously Presented): A substrate processing method comprising steps of:  
placing a substrate to be processed in an evacuated reaction chamber of a substrate processing apparatus comprising a light source, a plurality of rigid light transmitting windows which transmit light from the light source, and the reaction chamber capable of being evacuated, such that the substrate opposes the light transmitting window with a spacing therebetween;

irradiating the reaction chamber by the light from the light source through the light transmitting window, while linearly moving the substrate relative to the light transmitting window such that the substrate is parallel to the light transmitting window; and

processing at least a surface to be processed of the substrate, which opposes the light transmitting window, by a reaction which occurs when light from the light source is irradiated into the reaction chamber.

Claim 17 (Original): A method according to claim 16, which further comprises steps of:

preparing a substrate to be processed having a surface to be processed which is at least partially made of a semiconductor; and

forming an ambient containing at least oxygen gas in the reaction chamber, wherein the step of processing at least the surface to be processed of the substrate comprises a step of oxidizing the surface to be processed by using active oxygen atoms formed by the reaction which occurs when light from the light source is irradiated into the reaction chamber, thereby forming an insulating film on the substrate.

Claim 18 (Previously Presented): A method according to claim 16, which further comprises a step of forming, in the reaction chamber, an ambient of a gas of a compound having an atom which belongs to the group consisting of C, Si, Ge, Sn and Pb or a gas mixture containing the gas, an ambient of a gas mixture containing a gas of a compound having an atom which belongs to the group consisting of B, Al, Ga, In and Tl, and a gas of a compound having an atom which belongs to the group consisting of N, P, As, Sb and Bi, an ambient of a gas mixture containing a gas of a compound having an atom which belongs to the group consisting of Zn, Cd and Hg, and a gas of a compound having an atom which belongs to the group consisting of O, S, Se, Te and Po, or an ambient of a gas containing at least a silicon compound gas, wherein the step of processing at least the surface to be processed of the substrate comprises a step of forming a semiconductor film on the substrate by the reaction which occurs when light from the light source is irradiated into the reaction chamber.

Claim 19 (Previously Presented): A method according to claim 16, wherein photo-oxidation, photo-CVD, photo-ashing, photo-cleaning, photo-etching, or photo-epitaxy is used

as the reaction which occurs when the interior of the reaction chamber is irradiated with the light from the light source through a plurality of light transmitting windows.

Claim 20 (Original): A method according to any one of claims 16 to 18, wherein at least two of photo-oxidation, photo-CVD, photo-ashing, photo-cleaning, photo-etching, and photo-epitaxy are continuously performed without breaking a vacuum.

Claim 21 (Previously Presented): An apparatus according to claim 1, wherein the light transmitting windows are juxtaposed in the moving direction.

Claim 22 (Previously Presented): An apparatus according to claim 2, wherein the light transmitting windows are juxtaposed in the swinging direction.

Claim 23 (Currently Amended): ~~[[An]]~~ A method according to claim 16, wherein the light transmitting windows are juxtaposed in the moving direction.